

a third step of radiating ultraviolet rays of a wavelength of 300 nm or longer, but shorter than 380 nm, to the gas treated in the second step to convert said active oxygen into an oxygen molecule in a ground state, at least one of said second step or said third step being conducted in the presence of a photocatalyst including at least one of particles of titanium oxide of an orthorhombic crystal system or particles of titanium oxide of an orthorhombic crystal system supporting fine particles of another metal.

2. The method according to claim 1 wherein said first step is a step of radiating ultraviolet rays of a short wavelength of shorter than 200 nm to the oxygen containing gas.

3. The method according to claim 1 wherein said particles of titanium oxide of an orthorhombic crystal system are particles of brookite.

4. The method according to claim 1 wherein the metal further comprises a step of irradiating the oxygen containing gas treated in said third step, with rays radiated from an infrared lamp and with rays radiated from a halogen lamp to dry the gas.

5. An apparatus for purifying an oxygen containing gas comprising:

a first treating room having means of supplying the oxygen containing gas and a device for generating ozone in the supplied oxygen containing gas;

a second treating room connected to the first treating room and having a device of radiating ultraviolet rays of a medium wavelength of 200 nm or longer, but shorter than 300 nm;

a third treating room connected to the second treating room and having a device of radiating ultraviolet rays of a long wavelength of 300 nm or longer, but shorter than 380 nm; and

means for discharging the oxygen containing gas treated in the third treating room outside the apparatus, at least a part of wall surfaces of at least one of said second treating room or